جامعة : المنصورة
كـــلية : العلـــــوم
قـســـم:علم الحيوان

توصيف مقرر دراسى

١ ـ بيانات المقرر		
الرمز الكودى: Z101	أسم المقرر:Introduction in Cytology, Histology & Genetics	المستوى :الأول (بيولوجى)
التخصص: علوم البيئة	عدد الوحدات الدراسية: ٣ نظرى: ٢ تمارين ٠ عملى: ٢	

٢ ـ هدف المقرر:	**For students undertaking this course, the aims are to:** **1.** acquire an understanding of the principles of histology. **2.** explain the different cell components and various body tissues. **3.** acquire the students skills of preparing and examining the histological slides for different body organs. **4.** acquire an understanding of the principals of genetics and genetic engineering.
٣ ـ المستهدف من التدريس المقرر:	
أ ـ المعلومات والمفاهيم:	**a- Knowledge and Understanding : On completing this course, students will be able to:** a1- Recognize the role of different cell components. a2- List and describe the cell components and various body tissues and its function. a3- Understand the principles of genetics and its relation to inheritance. a4-Explain mitotic & meiotic cell divisions. a5- Recognize the importance of cloning and its application. a6- Acquire the students skills of the determination of mutation rate, handling & quantification of nucleic acids and enzymes.
ب ـ المهارات الذهنية	**b- Intellectual Skills: On completing this course, students will be able to:** b1- Distinguish and compare the differences between histological sections of various body organs. b2- Distinguish between mitotic and meiotic cell divisions. b3- Analyze the different types of genetic disorders. b4- Analyze genetic data in practical situations.
ج ـ المهارات المهنية الخاصة بالمقرر:	**c-Professional and Practical Skills: On completing this course, students will be able to:** c1- Acquire the students skills of examination of histological slides for different body organs. c2- Analyze genetic data in practical situations. c3- Sketch and compare the structure of the different studied histological sections.
د ـ المهارات العامة :	**d-General and Transferable Skills: On completing this course, students will be able to:** d1- Search for information & Present results in oral written means. d2- Solve the problems & Manage self time, data and knowledge.

d3- Apply to manage learning and making use of scholarly review and primary scientific literature.
d4- Apply to undertaken appropriate further professional training.

٤- محتوى المقرر:

A- Embryology :

Phases of normal animal development, body axis- Kinds of body cells
Reproduction & structure of male genital organ , spermatogenesis
Reproduction & structure of male genital organ , oogenesis- Kinds of infertility, abnormalities of sperm- Reproductive cycles, ovarian cycles
Uterine cycle and vaginal cycle- Definition, steps and significance of fertilization- Types of eggs according to amount and distribution of yolk.
Pattern of cleavage- IVF and cloning- Development of amphioxus
Development of toad- Development of mammals- Embryonic membranes

B- Physiology:

Digestive system
nutrition – digestion
Absorption & metabolism –
Urinary system and excretion
Respiratory system- respiration
Nervous system
Endocrines, Muscular system.
Blood – circulatory system and circulation

C- Histology & Cytology:

Basics for studying histology – microscopy
Structure of the cell - physical & chemical nature of the cytoplasm, studying structure and function of different cell organoids.
Specialized epithelium – connective tissues.
Specialized epithelium - connective tissue. muscular tissue - nervous tissue

٥- اساليب التعليم والتعلم:

4 - Teaching and Learning Methods

1- lectures (2H/W)
3- Practical lab. (2H/W)
4- Report

٦- أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة:

The same as normal students, only skeletal disabilities are allowed in the Faculty of Science.

٧- تقويم الطلاب :

أ- الأساليب المستخدمة :

Student Assessment Methods

Mid-term exam	to assess	a1-3, b1,2, d1-2
Practical exam	to assess	a1-6,b1-4, c1-3, d1-4
Final exam	to assess	a1-6, b1-3, d1,2
Oral exam	to assess	a1-6, b1-3, d1,2
Report	to assess	a1-a6,d1-d4

ب- التوقيت :

Assessment Schedule

Assessment 1	Mid-term exam	Week 7
Assessment 2	Practical exam	Week 14
Assessment 3	Final exam	Week 16
Assessment 4	Oral exam	Week 16
Assessment 5	Report	Week 16

ج- توزيع الدرجات :

Weighting of Assessments

Mid-term examination	10%
Practical Examination	20%
Final-Term Examination	60%
Oral Examination	10%
Total	100%

٨- قائمة الكتب الدراسية والمراجع :

أ- مذكرات:

Course notes in physiology, embryology, cytology and histology authorized by the department of zoology.

ب- كتب ملزمة

ج- كتب مقترحة :

Review of medical physiology-medical, W.F. Ganong 16th edition, 2003.
Basic histology. Junqueira, Luiz Carlos Uchïoa, . Lange Medical Books, McGraw Hill, Medical Pub. Division, 2003
Foundations of Embryology. Carlson, Bruce M. Tata McGraw-Hill, 2007.

د- دوريات علمية أو نشرات..

Different web sites of embryology, physiology, cytology and histology

مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسى

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
1- Cytology: Structure of the animal cell, studying structure and function of different cell organoids (plasma membrane- mitochondria- lysosomes- ribosomes).	1	a1,a2		c3	d1,d3,d4
2- (rough and smooth endoplasmic reticulum-Golgi apparatus- microtubules, centrioles, cilia &flagella- cell non living inclusions).	2	a1,a2		c3	d1,d3,d4
3- Histology: Epithelial tissue (Covering and lining epithelium- glandular epithelium- Specialized epithelium)	3	a1,a2	b1	c1,c3	d1-4
4- Connective tissue (C.T. cells& intercellular substances- Proper C.T. - Supportive C.T.- Vascular C.T.)	4	a1,a2	b1	c1,c3	d1-4
5- Muscular tissue (skeletal, cardiac and smooth muscles)	5	a1,a2	b1	c1,c3	d1-4
6- Nervous tissue (neurons- synapsis- neuroglia-nerve fibres & nerves)	6	a1,a2	b1	c1,c3	d1-4
7- Genetics: mitotic and meiotic cell divisions- flow of genetic information- structure of DNA &RNA- gene organization	7	a3,a4	b2,b3	c2	d1-4
8- Gene structure in prokaryotes and eukaryotes- gene expression- Isolation of DNA & RNA.	8	a3	b2	c2	d1-4
9- Nucleic acid labeling- hyperdization	9	a3	b2,b3	c2	d1-4
10- Gel electrophoresis- DNA sequencing	10	a5	b4	c2	d1-4
11- DNA modifying enzymes	11	a5,a6	b3,b4	c2	d1-4
12- Biology of genetic engineering (host cell types-	12	a5,a6	b3,b4	c2	d1-4

vectors- alternative methods for DNA delivery					

أستاذ المادة : د/ دعاء عبد الحميد على عبدالسلام **رئيس مجلس القسم العلمي :ا.د/ هناء على حسن**